

WHAT IS CLAIMED IS:

1. An air gun comprising:

a slide arranged in an upper portion of the gun and slidable in parallel with a barrel;

5 a cylinder portion formed in a sleeve shape opened on a muzzle side and closed on a gun rear end side and fixed to a gun rear end side internal portion of the slide;

10 a hit pin projected from the interior of a hollow portion of the cylinder portion to the gun rear end side and slidably arranged in a muzzle direction;

15 a valve body fixed to a gun body so as to be located within the hollow portion of the cylinder portion and having a hollow bullet supplying nozzle chamber on the muzzle side, a hollow valve pin chamber on the gun rear end side, and a through hole extending from the muzzle side to the gun rear end side and having a diameter smaller than diameters of the bullet supplying nozzle chamber and the valve pin chamber;

20 a gas inlet port opened to a sleeve-shaped circumferential face of the valve pin chamber and supplying a compressed gas to the valve pin chamber of the valve body at any time;

25 a bullet supplying nozzle which is formed in a sleeve shape, and is arranged within the bullet supplying nozzle chamber, and has a muzzle side end tip inserted into a muzzle side through hole of the bullet supplying

nozzle chamber, and is biased on the gun rear end side at any time, and is slidable against biasing force; and

a valve pin which is formed in a sleeve shape and is arranged within the valve pin chamber, and is biased on the gun rear end side at any time, and has a muzzle side inserted into a muzzle side through hole of the valve pin chamber, and is slidable in an airtight state with respect to the muzzle side through hole of the valve pin chamber, and has a pin body arranged on the gun rear end side and having a valve pin flange portion coming in contact with a side face of the valve pin chamber on its rear end side in an airtight state, and has a nozzle inserting portion arranged on the muzzle side of the pin body and slidably inserted into a gun rear end side opening of the bullet supplying nozzle, and has a pressing portion arranged on the gun rear end side of the pin body and fixed to the pin body and inserted into a through hole of the valve pin chamber on its gun rear end side and projected onto the gun rear end side and having a gun rear end side end tip located to be adjacent to the hit pin and enabling permeation of the compressed gas in a clearance between the pressing portion and the inserted through hole, and has a nozzle chamber side opening arranged in a hollow portion of the pin body and opened to a pin body side face on the gun rear end side of the nozzle inserting portion, and further has a valve pin chamber side opening arranged in the hollow portion of

the pin body and opened to the pin body side face on the muzzle side of the pressing portion;

the air gun being constructed such that

when the hit pin is pressed on the muzzle side and
5 is slid to the muzzle side, the valve pin is slid to the muzzle side against biasing force, and the airtight state of the valve pin flange portion and the side face of the valve pin chamber on its gun rear end side is released, and the compressed gas supplied from the gas inlet port
10 to the valve pin chamber is supplied to the nozzle chamber side opening and the valve pin chamber side opening from a portion between the side face of the valve pin chamber on its gun rear end side and the valve pin flange portion, and the bullet supplying nozzle is slid
15 to the muzzle side against the biasing force by a pressure of the compressed gas supplied from the nozzle chamber side opening, and a bullet is shot by supplying the compressed gas to the opening on the muzzle side from a clearance formed between an opening on a flange portion
20 side and the nozzle inserting portion, and the cylinder is moved to the gun rear end side by supplying the compressed gas supplied from the valve pin chamber side opening to the gun rear end side from the clearance between the pressing portion and the through hole
25 inserting the pressing portion thereinto.

2. An air gun comprising:

a slide arranged in an upper portion of the gun and

slidable in parallel with a barrel;

a cylinder portion formed in a sleeve shape opened on a muzzle side and closed on a gun rear end side and fixed to a gun rear end side internal portion of the slide;

a hit pin projected from the interior of a hollow portion of the cylinder portion to the gun rear end side and slidably arranged in a muzzle direction;

a valve body fixed to a gun body so as to be located within the hollow portion of the cylinder portion and having a hollow bullet supplying nozzle chamber on the muzzle side, a hollow valve pin chamber on the gun rear end side, and a through hole extending from the muzzle side to the gun rear end side and having a diameter smaller than diameters of the bullet supplying nozzle chamber and the valve pin chamber;

a gas inlet port opened to a sleeve-shaped circumferential face of the valve pin chamber and supplying a compressed gas to the valve body at any time;

a bullet supplying nozzle which is formed in a sleeve shape, and is arranged within the bullet supplying nozzle chamber, and has a muzzle side end tip inserted into a muzzle side through hole of the bullet supplying nozzle chamber, and has a flange portion arranged on the gun rear end side and having the same diameter as the bullet supplying nozzle chamber, and has a sleeve-shaped opening arranged on the gun rear end side and having a

diameter smaller than that of a gun rear end side through hole of the bullet supplying nozzle chamber, and is biased on the gun rear end side at any time, and makes the flange portion and an inner circumferential face of the bullet supplying nozzle chamber slidable against biasing force in an airtight state; and

a valve pin which is formed in a sleeve shape and is arranged within the valve pin chamber, and is biased on the gun rear end side at any time, and has a muzzle side inserted into a muzzle side through hole of the valve pin chamber, and is slidable in an airtight state with respect to the muzzle side through hole of the valve pin chamber, and has a pin body arranged on the gun rear end side and having a valve pin flange portion coming in contact with a side face of the valve pin chamber on its rear end side in an airtight state, and has a nozzle inserting portion arranged on the muzzle side of the pin body and slidably inserted into a gun rear end side opening of the bullet supplying nozzle, and has a pressing portion arranged on the gun rear end side of the pin body and fixed to the pin body and inserted into a through hole of the valve pin chamber on its gun rear end side and projected onto the gun rear end side and having a gun rear end side end tip located in a position adjacent to the hit pin and enabling permeation of the compressed gas in a clearance between the pressing portion and the inserted through hole, and has a nozzle

chamber side opening arranged in a hollow portion of the pin body and opened to a pin body side face on the gun rear end side of the nozzle inserting portion, and further has a valve pin chamber side opening arranged in the hollow portion of the pin body and opened to the pin body side face on the muzzle side of the pressing portion;

the air gun being constructed such that

when the hit pin is pressed on the muzzle side and is slid to the muzzle side, the valve pin is slid to the muzzle side against biasing force, and the airtight state of the valve pin flange portion and the side face of the valve pin chamber on its gun rear end side is released, and a nozzle chamber side of the pin body presses against the flange portion of the bullet supplying nozzle and slides the bullet supplying nozzle to the muzzle side so as to form a clearance between the flange portion of the bullet supplying nozzle and an inner surface of the bullet supplying nozzle chamber on its gun rear end side, and the compressed gas supplied from the gas inlet port to the valve pin chamber is supplied to the nozzle chamber side opening and the valve pin chamber side opening from a portion between the side face of the valve pin chamber on its gun rear end side and the valve pin flange portion and is also supplied to a clearance formed between the flange portion of the bullet supplying nozzle and the inner surface of the bullet supplying nozzle

09160805-092598

chamber on its gun rear end side via the nozzle chamber side opening, and the bullet supplying nozzle is slid to the muzzle side against the biasing force by a gas pressure, and a bullet is shot by supplying the
5 compressed gas to the opening on the muzzle side from a clearance formed between an opening of the bullet supplying nozzle on its flange portion side and the nozzle inserting portion, and the cylinder is moved to the gun rear end side by supplying the compressed gas
10 supplied from the valve pin chamber side opening to the gun rear end side from the clearance between the pressing portion and the through hole inserting the pressing portion thereinto.

the valve pin chamber side opening is supplied to the gun rear end side from the clearance between a pressing portion and a through hole, inserting the pressing portion thereinto so that the cylinder is moved to the gun rear

5 end side

09150805 092548